

REMARKS

Claims 1, 3, 5-8, 12-23, 25-27, 29, and 30 are pending in this application. Claims 1, 12, and 18 are independent. Claims 24 and 28 have been canceled. Claims 29 and 30 have been added.

Interview

Applicants wish to thank the Examiner and Examiners' Supervisor for conducting the interview. This reply contains claim amendments that were prepared as a result of discussion that took place during the interview. If the amendments require further discussion, Applicants request that the Examiner contact the undersigned to conduct a telephone interview.

Allowed Subject Matter

Applicants wish to thank the Examiner for indicating that claims 18-23 and 27 are allowed, and that claims 8, 16 and 17 contain allowable subject matter.

Claim Rejection – 35 USC 102(e)

Claims 1, 3, 5, 12, 13, 25, and 26 have been rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,157,408 ("Etoh"). Applicants respectfully traverse this rejection.

Summary of the Present Invention

In the Reply filed June 14, 2004, Applicants had submitted that Etoh fails to teach or suggest the claimed read-out line for each of longitudinal sections of the electric signal recorders, the read-out line being used for directly reading the electric signals out of said longitudinal sections of the electric signal recorders, as recited in claims 1 and 12. As a result of the interview, it is Applicants understanding that the CCD's 32A to 32F of Etoh could be considered read out circuits that directly read out via read out lead 34.

The present invention, in a preferred embodiment, includes a feature that electric signals originating from a photodiode can be directly read out from the light receptive area. Because electric signals can be directly read-out from the light receptive area, in the case of a defective electric signal storage device (CCD), electric signals generated at a pixel above the defect can be directly read out (page 14, first full paragraph).

In particular, in a preferred embodiment of the present invention, a read-out line is for a longitudinal section of CCD's associated with one photodiode. In other words, the electric signals for one photodiode can be individually read out. Also, the read-out circuit is connected to the drain gate of each longitudinal section by the drain line. The drain gate and drain line serve both to discharge an electric signal from a photodiode, and as the read-out line for the longitudinal section. In other words, in a preferred embodiment of the present invention, the drain gate

is also the read-out gate, and the drain line also serves as the read-out line.

Differences over Etoh

Claims 1 and 12 have been amended to define directly reading out as reading out signals for each signal converter (e.g., photodiode) individually, and a drain gate/drain line having dual functions of signal discharge and reading-out. Claims 1 and 12 have also been amended to clarify the claimed “longitudinal sections” and to change “electric signal recording means” to “electric signal storage means”, as believed to have been recommended during the interview.

Applicants submit that Etoh fails to teach the dual function of reading out from the drain line associated with a transfer path for each photodiode (e.g., drain line 42 shown in Fig. 3), as well as discharging electric signals from a photodiode using the drain line. Such a deficiency applies as well to claims dependent on claims 1 and 12.

Accordingly, Applicants submit that Etoh fails to teach each and every claimed element, and respectfully request that the rejection be withdrawn.

Claim Rejection – 35 USC 103; Etoh and Tanaka

Claims 6 and 14 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Etoh and U.S. Patent 6,674,470 (“Tanaka”). Applicants respectfully traverse this rejection.

Tanaka is relied on for teaching a MOS-type solid state imaging device. However, Applicants submit that Tanaka fails to make up for the above stated deficiencies in Etoh. Thus, Applicants submit that the rejection fails to establish *prima facie* obviousness. Accordingly, Applicants respectfully request that the rejection be withdrawn.

Claim Rejection – 35 USC 103; Etoh and Moon

Claims 7, 15, 24, and 28 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Etoh in view of U.S. Patent No. 6,091,091 (“Moon”). Applicants respectfully traverse this rejection.

Applicants submit that Moon fails to make up for the above stated deficiencies in Etoh. Thus, Applicants submit that the rejection fails to establish *prima facie* obviousness. Accordingly, Applicants respectfully request that the rejection be withdrawn.

New Claims

Claims 29 and 30 have been added. Claims 29 and 30 are comparable to claim 1 and recite the dual function of the drain line of discharging electric signals generated by signal converters and for direct read-out of a read-out signal from the longitudinal sections. At least based on this feature, Applicants submit that claims 29 and 30 are patentable over Etoh.

CONCLUSION

All objections and rejections raised in the Office Action having been addressed, it is respectfully submitted that the present application is in condition for allowance and such allowance is respectfully solicited. Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert W. Downs (Reg. No. 48,222), to conduct an interview in an effort to expedite prosecution in connection with the present application.


Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicant(s) respectfully petition(s) for a one (1) month extension of time for filing a reply in connection with the present application, and the required fee of \$120.00 is attached hereto.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any

overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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